

Activity Number	Action	Current Status	2005	2006	Outcome
<b>Actions to Improve Standardized Bycatch Reporting Methodologies (SBRMs) for the Bering Strait Aleutian Islands (BSAI) and Gulf of Alaska (GOA) Groundfish Fisheries, the Alaska Pacific Halibut fishery, and the State Managed Marine Mammal Protection Act (MMPA) Category II</b>					
1	Develop improved protocols for observer documentation of seabird interactions and mortalities.	Implemented changes to data recording to enable better estimation procedures.	Will respond to needs identified by scientists and managers. Several special data collection projects are being planned.	Will responds to identified needs.	Improved accuracy and precision in estimates of seabird interactions and bycatch.
2	Improved species identification by observers.	Improved training in response to specific needs identified by scientists and managers.	Will responds to identified needs.	Will responds to identified needs.	Improved accuracy in identification of catch and bycatch species and quantification of removals. Improved bycatch estimates through comparison of catch and estimated retention.
3	Develop and implement methods for shoreside sampling of skates.	Contracted with Alaska Department of Fish and Game to perform sampling.	Continued work depending on funding.	Continued work depending on funding.	Understanding of magnitude and composition of skate fishery on currently unobserved vessels. Ability to compare removals with deliveries if fishery is observed.
4	Enhancements to observer sampling for catch composition determination.	Ongoing methodology research.	Continued work depending on funding.	Continued work depending on funding.	Improved accuracy and precision in estimates of total removals by species. Improved bycatch estimates through comparison of catch and estimated retention.
5	Evaluate placement of observers on small (<60ft) groundfish vessels.	Subject to funding and authorization by Council.	Subject to funding and authorization by Council.	Subject to funding and authorization by Council.	Basis for evaluating costs and benefits associated with direct observation of bycatch on small groundfish vessels. Potential for improved bycatch estimates.
6	Certify observer workstations and monitor flow scale testing on certain vessels fishing groundfish.	This is an ongoing funded activity.	Ongoing	Ongoing	Improved accuracy in estimating total catch and catch composition.

7	Place observer program staff on specific groundfish vessels to customize sampling protocols	This is an ongoing funded activity.	Ongoing	Ongoing	Improved sampling precision and reduction in bias. Improvements in vessel-specific and overall estimates of catch and bycatch.
8	Evaluate technologies suitable for monitoring groundfish fisheries.	Evaluating available technologies in consultation with other observer programs. A contract with Marine Resources Assessment Group reviewing current technologies was completed.	Subject to funding and staff resources.	Subject to funding and staff resources.	Basis for determining best mix of technological and human resources to address specific monitoring needs. Potential for improved bycatch estimates.
9	Develop approaches for optimizing observer deployment and tasking	Engaged in ongoing consultation with scientists and managers.	Ongoing	Ongoing	Improved efficiency in allocation of observer resources. Flexibility in assigning observers based on priorities, logistics, and costs.
10	Evaluate potential for placing observers on commercial halibut vessels.	Funds were not provided in FY04.	Dependent on provision of funds.	Dependent on provision of funds.	Basis for evaluating costs and benefits associated with direct observation of bycatch on halibut vessels.
11	Change observer service delivery model to improve flexibility and data quality.	Developing Alternatives for Council consideration.	Addressing implementation issues, ongoing Council review of analysis, and Council final action.	Addressing implementation issues and rulemaking.	Improved efficiency in allocation of observer resources. Flexibility in assigning observers based on priorities, logistics, and costs.

12	Initiate development of behavior measures for delayed mortality in discards from fisheries.	Measures developed for sablefish.	Develop measures for halibut.	Adapt behavioral measures for field use.	The development of new, sensitive behavioral measures of delayed mortality in discards from fisheries will improve the SBRMs and the resulting estimates of bycatch mortality and could be used to improve discard procedures.
13	Initiate studies of the effect of environmental factors on swimming behavior and performance of fish caught by trawl.	Studies of swimming behavior initiated and ongoing.	Continue studies of swimming behavior in response to light conditions.	Continue studies of swimming behavior in response to temperature.	Research results will be used: (1) to predict how these stress effects may control immediate and delayed mortality of fish that escape from trawls and (2) to develop new strategies for reduction and elimination of mortality in fish that escape from trawls as a result of bycatch reduction devices.
14	Investigate the impact of a real-time bycatch monitoring system on bycatch levels and fishing location choice in the BSAI.	Working with consultant to obtain access to real-time reports he has issued.	Continued work depending on funding.	Continued work depending on funding.	Evaluate the extent to which alternative bycatch management strategies affect bycatch rates and fishing strategies.
15	Improve methodology for estimating prohibited species bycatch.	Issue contract to begin work.	Continued work depending on funding.	Continued work depending on funding.	Increased precision in estimating overall prohibited species amounts or rates, by statistical area, gear type, and mode of operation.

16	Evaluate the need for additional compliance resources to maintain the integrity of the observer data.	Alaska Enforcement Division (AED) is evaluating certain technologies to assist in observer related enforcement activities and continues to work closely with the observer program to address bycatch related compliance issues.	Ongoing	Ongoing	Decreased occurrences of interference with observer sampling or reporting by crew and stricter adherence to performance requirements by observers.
17	Review compliance issues associated with current bycatch reduction programs.	AED continues to play an active role in recommending monitoring and enforcement activities for Council actions. Enforcement actions for bycatch related violations are handled on a case by case basis.	Ongoing	Ongoing	Bycatch reduction programs which greatly reduce or eliminate incentives for interfering with monitoring.

18	Promote the use of electronic logbooks to facilitate identification and correction of bias in estimating bycatch for unobserved vessels.	Catcher vessel electronic logbook is currently being used by some vessels.	Handheld electronic logbooks will be incorporated into a project summer of 2005. Proposed rule and final rule for catcher vessel electronic logbook published.	Continued development of handheld electronic logbook.	More complete, accurate, and timely data will be available to identify and correct for bias in estimating bycatch for unobserved vessels.
19	Evaluate methods for improving bycatch estimates of marine mammals in state-managed MMPA Category II salmon fisheries.	Working to improve bycatch estimates in these fisheries through adequate observer coverage.	Alaska Marine Mammal Observer Program will observe Kodiak setnet fishery summer of 2005.	Plan to observe Prince William Sound fishery, dependant on funding.	Increased accuracy and precision to determine if PBR levels are exceeded, categorizing fisheries in annual List of Fisheries, and determining whether a fishery has approached a zero mortality rate.
20	Promote interagency efforts to develop electronic reporting of landings data by trip.	Development of electronic reporting system for crab fisheries. This system may be used for groundfish fisheries in the future. Continued transition to web-based electronic reporting for IFQ fisheries.	Ongoing	Ongoing	More complete, accurate, and timely data will be available to identify and correct for bias in estimating bycatch for unobserved vessels.

21	Implement non-discretionary measures identified in Biological Opinion issued by USFWS on impacts of Pacific halibut longline fishery on ESA-listed seabird species.	Projects initiated with International Pacific Halibut Commission (IPHC) and Alaska Fisheries Science Center (AFSC) to conduct a feasibility study of halibut fishery monitoring options and a pilot study evaluating electronic monitoring technologies.	Development of monitoring plan for the halibut fishery, including identification of resources; coordination with Council initiative and AFSC Observer Program.	Ongoing	Adequate monitoring of Pacific halibut longline fishery for incidental take of ESA-listed and other seabird species.
<b>Improve Our Ability to Estimate the Biological, Ecosystem, Social, and Economic Effects of Bycatch and of Alternative Methods for Reducing Bycatch</b>					
1	Stock assessment research for non-target groundfish species.	Estimated catch to more precise taxonomic levels using groundfish observer data for 1997-2002. One masters and one PhD thesis initiated on skate life history. Initiated biological collections for skates, sculpins, and other nontarget species during surveys. Incorporated IPHC survey data into GOA skate stock assessment.	Ongoing	Ongoing depending on continued funding of contract employees and student research.	Improve the quality of catch, life history, abundance and assessment information on species where stock status is poorly defined or unknown.

2	Ecosystem research on the effects of bycatch.	Developed a fishery management system that accounts for the impact on habitat using a cap and trade system.	Ongoing	Dependent on provision of funds.	Extending rights-based fishery management to include habitat impacts as a separable property right appears to be an efficient and effective means of achieving habitat protection and can achieve habitat protection objectives similar to marine protected areas, but with greater flexibility in achieving the targets for protected habitat and species at a lower cost.
3	Economic and social science data collection and research.	Obtaining additional data on real-time bycatch reports to evaluate the effects of such a system.	Ongoing	Continued work depending on funding.	Improved ability to determine the social and economic impacts of bycatch and bycatch management measures and to model fishing behavior.
<b>Encourage the Development and Use of Gear Technologies that Provide Efficient Methods for Reducing Bycatch</b>					
1	A continuing cooperative project to reduce salmon bycatch during pollock trawling.	Ongoing development and technology transfer to industry.	Continued work depending on funding.	Continued work depending on funding.	Reduced incidental catch of salmon in directed pollock fisheries.
2	A project to study the behavioral response of rock sole to disturbance by bottom trawl gear in order to determine how natural behaviors may be utilized to assist in bycatch reduction efforts in the rock sole fishery.	Ongoing experiments currently being completed.	Evaluate potential continued lab and field experiments and prepare results from completed research for publication.	Dependent upon funding.	Reduced incidental catch in directed rock sole fisheries.

3	Trawl vessel interactions with seabirds.	Field work to characterize rates of interaction and develop mitigation methods in progress.	Field work ongoing; will also map effort and assess third wire technology.	Meet requirements to assess risk to short-tailed albatross and continue field work, if funds available.	Characterize, minimize, mitigate trawl vessel interactions with seabirds, particularly the short-tailed albatross; this work will address non-discretionary measures required of NMFS in a USFWS Biological Opinion (Sept 2003).
4	Improve spatio-temporal characterization of seabird bycatch estimates.	Seabird bycatch data are currently collected in appropriate scale by North Pacific Groundfish Observer Program.	Report seabird bycatch in documents detailing bycatch by fishery, gear, species, and time/area cells.	Continue to provide specific seabird bycatch numbers and improve on reporting capabilities.	Improved characterization of when and where seabirds are being incidentally taken can assist in efforts to reduce this incidental take.
5	Halibut excluder device development.	Initial funding and planning accomplished.	Field work will commence.	Continued field work.	Reduced incidental halibut catch in directed groundfish fisheries.

#### **Develop and Implement More Effective and Efficient Management Measures to Reduce Bycatch**

1	Enforcement interval change for pollock Maximum Retainable Amounts (MRAs).	Final rule published June 14, 2004 (69 FR 32901)	Ongoing	Ongoing	Decrease regulatory discards and increase retention for all non-AFA vessels in the BSAI.
2	Minimum Groundfish Retention Standard: Amendment 79.	Council final action taken at June, 2003 meeting. Proposed rule pending.	Proposed and final rulemaking.	Implementation January 2006	Create a standard for retention of groundfish for the BSAI groundfish fishery, reduce groundfish discards, while continuing to allow for a multi-species trawl fishery to continue to be a viable fishery.
3	Harvesting Cooperatives for the BSAI head and gut catcher processors and quota allocations to all sectors: Amendment 80.	Council final action scheduled for April 2005. However, this likely will occur later.	Council final action. Proposed rule making.	Ongoing rulemaking.	Facilitate rationalization of some sectors in the BSAI. Rationalization would eliminate the race for fish and allow cooperative behavior to decrease discards.



4	Establish a new program for observer procurement and deployment in the North Pacific.	Preliminary review of draft analysis by Council at December meeting.	Addressing implementation issues, ongoing Council review of analysis, and Council final action.	Addressing implementation issues and rulemaking.	Increase flexibility to respond to evolving management programs and provide better quality data by implementing deployment strategies to address data needs and minimize bias.
5	Non-target species management.	Non-target working group designing a global mechanism of handling non-target species by using rockfish as a study case.	Continued development of problem statement and alternatives.	Continued analysis.	Optimization of sustainable yield of non-target species, where possible, while also protecting them from potential overfishing.
6	Required full retention of demersal shelf rockfish (DSR) incidentally harvested in the Southeast Outside (SEO) area in hook and line and jig groundfish and halibut IFQ fisheries, while limiting sale of these fish.	Final rule published by end of 2004.	Implementation	Ongoing	Decrease waste, more accurately estimate DSR fishing mortality, improve DSR stock assessments, and evaluate whether current MRAs are the appropriate levels for DSR in the SEO.
7	GOA groundfish fishery rationalization.	Council initial review of analysis in December.	Council final action April, proposed rule published September.	Final rule published March, application and appeals process for quota allocation.	Provide opportunities to address conservation goals by providing opportunities to utilize fishing methods that reduce bycatch and gear conflicts.
8	Essential Fish Habitat (EFH)	Comment period on DEIS closed April, 2004. Proposed habitat areas of critical concern (HAPCs) being analyzed.	Council final action February, final EIS June 1, ROD by August 13.	Final rule published and FMP approved by August 13.	Minimizing the adverse effects of Council managed fisheries by describing EFH for these fisheries and identifying HAPCs.

9	Seabird bycatch reduction in longline fishery.	Final rule to revise and implement new seabird avoidance requirements of longline vessels published January 13, 2004 (69 FR 1930).	Continue efforts to improve regulations by addressing issue of small boat requirements for seabird avoidance measures, ongoing.	Continue efforts on small boat requirements; collaborations with Washington Sea Grant Program, USFWS, AFSC.	Reduced levels of incidental take of seabirds.
<b>Improve the Outreach Activities that Assist in Meeting the First Four Objectives and Provide Information that Can Be Used to Address Bycatch Problems in Other Fisheries</b>					
1	Improve bycatch information available to industry.	Working with private fisheries management firms to provide accurate, precise, and timely bycatch information for transmittal to fleet.	Ongoing	Ongoing	Industry will be better informed about gear technology, the effects of bycatch, and inseason bycatch data and can make better decisions to avoid bycatch.
2	Improve bycatch information available to fishery managers and other stakeholders, including the public at large.	Annually present bycatch information to the Council on the effects of regulatory discards.	Ongoing	Ongoing	Fisheries managers and the public will be able to make better decisions regarding management actions and policies.
3	Obtain better bycatch information.	Current efforts to improve salmon bycatch estimation.	Ongoing	Ongoing	Programs under this activity will be used to support outreach efforts under other activities under this heading.

4	Participation in international efforts to address bycatch problems.	The NMFS National Seabird Program is coordinated out of the Alaska Region and engages in numerous activities to promote international action to effectively address seabird/fishery issues.	Ongoing	Ongoing	Support information needs for decision makers outside the U.S. to decrease bycatch and obtain information to provide efficiencies in domestic efforts to reduce bycatch.
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